

IN THE SPECIFICATION:

- 1) Please substitute the following paragraph for the Abstract.

A TFT (20) for controlling the power supplied to an element to be driven (50), such as an organic EL element which operates based on the supplied power, is provided between the element to be driven (50) and a power supply line VL. The TFT (20) and the element to be driven (50) are electrically connected to by a wiring layer (40). The contact position between the wiring layer (40) and the TFT (20) and the contact position between the wiring layer (40) and the element to be driven (50) are positioned so as to be distant from each other. Alternatively, at least the contact hole region of a first electrode (52) of the element (50) is covered by a flattening layer. With this structure, it is possible to realize a flatter surface on which to form, for example, the emissive layer of the element to be driven.

- 2) Please substitute the following paragraph for the paragraph on page 5, lines 14-20.

By covering the contact hole region of the first electrode by a flattening layer, that is, by filling the recessed section caused by the presence of the ~~contact~~ contact hole by the flattening layer, a surface which has a very high flatness can be obtained by the first electrode and the flattening layer. Thus, by forming the emissive element layer on the surface with very high flatness, the reliability of the element can be improved.

- 3) Please substitute the following paragraph for the paragraph on page 7, lines 21-23.

Fig. 8 is a diagram showing ~~planer~~ planar structure of the active matrix type organic EL panel according to the first embodiment of the present invention with the circuit structure shown in Fig. 7.

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- 4) Please substitute the following paragraph for the paragraph on page 10, lines 27-29.

Figs. 10A and 10B are respectively a ~~planer~~-planar diagram and a cross sectional diagram of one pixel of the active matrix type organic EL panel according to a second embodiment of the present invention.

- 5) Please substitute the following paragraph for the paragraph on page 8, lines 1-3.

Fig. 11 shows another example of a ~~planer~~-planar structure of one pixel of the active matrix type organic EL panel according to the second embodiment.

- 6) Please substitute the following paragraph for the paragraph on page 8, lines 4-6.

Fig. 12 is a ~~planer~~-planar diagram of one pixel of the active matrix type organic EL panel according to a third embodiment of the present invention.

- 7) Please substitute the following paragraph for the paragraph on page 8, lines 7-9.

Fig. 13 shows another example of a ~~planer~~-planar structure of one pixel of the active matrix type organic EL element according to the third embodiment.

- 8) Please substitute the following paragraph for the paragraph on page 8, lines 10-13.

Fig. 14 shows yet another example of a ~~planer~~-planar structure of one pixel of the active matrix type organic EL panel according to the third embodiment.

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9) Please substitute the following paragraph for the paragraph spanning pages 9-10.

Fig. 2 shows a circuit structure of one pixel in an active matrix type EL display device having m rows and n columns according to a first embodiment of the present invention. As shown in Fig. 2, each pixel comprises an organic EL element 50, a switching TFT (first TFT) 10, an element driving TFT (second TFT) 20, and ~~an~~ a storage capacitor Cs, and is constructed in a region surrounded by a gate line GL extending in the row direction and a data line DL extending in the column direction. In the first embodiment, a compensation TFT 30 having the conductive characteristic opposite of that of the second TFT 20 is provided between the power supply line VL and the second TFT 20. The gate and either the source or the drain of the compensation TFT 30 are connected to provide a diode connection. The diode is connected in the forward direction between the power supply line VL and the second TFT 20. Thus, the compensation TFT can be operated without supplying any designated control signal.

10) Please substitute the following paragraph for the paragraph on page 15, lines 16-23.

Fig. 8 shows one example of the ~~planer~~ planar structure of the organic EL display device having a circuit structure shown in Fig. 7. Fig. 9A is a schematic cross section along the A-A line in Fig. 8, Fig. 9B is a schematic cross section along the B-B line in Fig. 8, and Fig. 9C is a schematic cross section along the C-C line in Fig. 8. In Figs. 9A through 9C, the layers (films) that are simultaneously formed are assigned the same reference numeral except where their functions are different.

11) Please substitute the following paragraph for the paragraph on page 18, lines 19-28.

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The organic EL element 50 has a cross sectional structure as shown in, for example, Fig. 9C, and is formed on top of a flattening insulation layer 18 provided over the entire substrate for flattening the upper surface after each of the TFTs are formed as described above. The organic EL element 50 is constructed by laminating an organic layer between an anode (transparent electrode) 52 and a cathode (metal electrode) 57 formed at the uppermost layer and common to all pixels. Here, the anode 52 and the source region of the second TFT 24 are not directly connected, but are connected via a connector 40 which constructs a wiring layer.

12) Please substitute the following paragraph for the paragraph spanning pages 20-21.

The emissive element layer (organic layer) 51 comprises, from the side of the anode, for example, a first hole transport layer 53, a second hole transport layer 54, an organic emissive layer 55, and an electron transport layer 56 laminated in that order. As an example, the first hole transport layer 52 includes MTDATA:4,4',4''-tris(3-methylphenylphenylamino)triphenylamine, the second hole transport layer 54 includes TPD:N,N'-diphenyl-N,N'-di(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine, the organic emissive layer 55 includes, although dependent on the target illumination color of R, G, and B, for example, BeBq₂:bis(10-hydroxybenzo[h]quinolinato)beryllium which includes quinacridone derivative, and the electron transport layer 56 is constructed from BeBq. In the example of the organic EL element 50 shown in Fig. 9C, the layers (53, 54, 56, and 57) other than the anode 52 constructed from an ITO (indium Tin Oxide) or the like and the organic emissive layer 55 are formed to be common to every pixel. Another example of the structure of the EL element can be constructed by sequentially laminating the layers of (a) transparent layer (anode); (b) a hole transport layer constructed from NBP; (c) an emissive layer including red (R) constructed by doping a red dopant (DCJTb) into a host material (Alq₃), green (G) constructed by doping a

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green dopant (coumarin 6) into a host material (Alq₃), and blue (B) constructed by doping a blue dopant (perylene) into a host material (BAIq); (d) an electron transport layer constructed from Alq₃; (e) an electron injection layer constructed from lithium fluoride (LiF); and (f) electrode (cathode) constructed from Aluminum (Al). The official names of the above materials described in abbreviations are as follows:

"NBP" : N,N'-Di((naphthalene-1-yl)-N,N'-diphenyl-benzidine);

"Alq₃" : Tris(8-hydroxyquinolino)aluminum;

"DCJTB" : (2-(1,1-Dimethylethyl-Dimethylethyl)-6-(2-(2,3,6,7-tetrahydro-1,1,7,7-tetramethyl-1H,5H-benzo[ij]quinolizin-9-yl)ethenyl)-4H-pyran-4-ylidene)propanedinitrile;

"coumarin 6" : 3-(2-Benzothiazolyl)-7-(diethylamino)coumarin; and

"BAIq" : (1,1'-Bisphenyl-4-Olato)bis(2-methyl-8-quinolinplate- N1,08)Aluminum.

The present invention, however, is not limited to these configurations.

13) Please substitute the following paragraph for paragraph on page 22, lines 3-14.

In the ~~planer~~ planar placement shown in Fig. 8, a polycrystalline silicon layer produced by polycrystallization by laser annealing process is used as the active layers. The annealing process may be performed, for example, by scanning a laser beam which is longer in the row direction of the figure, in the column direction. Even in such a case, the channel direction of the first TFT 10 and the length channel direction of the active layers of each of the second and compensation TFTs 24 and 34 do not coincide, and the formation positions for the first and second TFTs 10 and 24 are far apart. Therefore, it is possible to prevent simultaneous generation of failures in the first and second TFTs 10 and 24 and in the second and compensation TFTs 24 and 34 by the laser annealing.

14) Please substitute the following paragraph for the paragraph spanning pages 22-23.

A second embodiment of the present invention will now be described. In the first

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embodiment, in order to prevent variation in the illumination brightness among pixels as a result of characteristic variations in the transistor, a compensation thin film transistor having an opposite conductive characteristic as the element driving thin film transistor is provided. In contrast, in the second embodiment, the variation in the illumination brightness among pixels is inhibited by considering the placement of the element driving thin film transistor (second TFT). Figs. 10A and 10B show an example configuration of one pixel according to the second embodiment. Fig. 10A is a schematic ~~planer~~ planar view and Fig. 10B is a cross sectional view along the B-B line in Fig. 10A. This structure is shown with the same circuit structure as that of Fig. 1. In these figures, the components corresponding to those in the drawings that are already explained will be referred to by the same reference numerals.

15) Please substitute the following paragraph for the paragraph on page 27, lines 10-24.

The active layer 16 of the second TFT 20 and the active layer 6 of the first TFT 10 are both constructed from polycrystalline silicon obtained by laser annealing and polycrystallizing an amorphous silicon layer formed on a substrate 1, as described above. A gate insulation film 4 is formed on top of the active layers 6 and 16 constructed ~~from~~ from polycrystalline silicon. Each of the gate electrodes 2 and 25 respectively of the first TFT 10 and of the second TFT 20 is formed on the gate insulation film 4. The gate electrode 25 of the second TFT 20 is connected to the second electrode 8 of the storage capacitor Cs which is integral with the active layer 6 of the first TFT 10. As shown in Fig. 10A, the gate electrode 25 is patterned so that it extends from the connection section with the storage capacitor Cs in the column direction and widely covers the section of the gate insulation film 4 above the active layer 16.

16) Please substitute the following paragraph for the paragraph spanning pages 38-39.

In consideration of the above, Figs. 16A and 16B show an example of a connection

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method wherein the flatness at the formation surface of the emissive element layer 51 is increased, considering the above. Fig. 16A shows a cross sectional structure of the contact section between the active layer 16 of the second TFT 20 and the anode 52 of the organic EL element 50. Fig. 16B shows a schematic ~~planer~~ planar structure of the contact section. With exception of the presence of the second flattening insulation layer 61 for covering the edge region of the anode 52 and the second TFT being a top gate structure, the connection structure shown in Figs. 16A and 16B is identical to the structure shown in Figs. 8 and 9 as explained for the first embodiment. The connection position between the wiring layer 40 and the anode 52 is placed such that it is shifted with respect to the connection position between the wiring layer 40 and the active layer 16 of the second TFT 20. By employing such a configuration, the anode surface at the contact region between the wiring layer 40 and the anode 52, being the formation surface of the emissive element layer 51, is only influenced by the step h72 caused by the second contact hole 72 and is not influenced by the step h70 caused by the first contact hole 70 as in the case shown in Figs. 15A and 15B. Therefore, as is clear from comparison between Figs. 15A, B and 16A, B, the flatness of the formation surface for emissive element layer, especially at the illumination region of each pixel onto which the emissive layer 55 is formed can be improved.

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